

REMARKS/ARGUMENTS

The Office Action mailed May 24, 2004 has been reviewed and carefully considered. Before the present Amendment, Claims 1-5 and 14-15 were pending (Claims 6-13 having been withdrawn in response to the Restriction Requirement of January 15, 2004), with Claims 1, 3, and 14 being in independent form. In the present Amendment, Claims 1, 3, and 14 have been amended in order to clarify the nature of the present invention, while Claims 2 and 4 have been amended for minor editorial corrections. Claims 16-24 have been added, with Claim 19 being in independent form. After the present Amendment is entered, Claims 1-5 and 14-24 will be pending, with Claims 1, 3, 14, and 19 being in independent form.

In the May 24, 2004 Office Action, Claims 1-4 and 14-15 were rejected as anticipated under 35 USC §102(b) by *Lee et al.* (US 5,748,789), and Claim 5 was rejected as unpatentable under 35 USC §103(a) by *Lee* in view of *Reilly* (US 6,580,422). In response, independent Claims 1, 3, and 14 have been amended to clarify the nature of the invention. It is respectfully submitted that amended Claims 1, 3, and 14 are not anticipated by *Lee* for at least the following reasons.

Lee is directed to an "object-based video encoder or decoder [which] uses shape information that describes the boundary of a group of pixels representing an object in a sequence of video frames to identify transparent blocks" (Abstract, *Lee*). Furthermore, the method of *Lee* "for transparent block skipping reduces coding and decoding operations and reduces the number of bits needed to store a bitstream representing a compressed video sequence" (Abstract, *Lee*). The advantages in *Lee* are that, "[i]nstead of encoding transparent blocks, they are merely skipped" and "the number of bits required to encode object-based video" is reduced (col. 3, lines 46-53, *Lee*).

In short, *Lee* teaches saving time in encoding/decoding by **reducing** the number of operations performed and **reducing** the number of bits required in object-based video by skipping transparent blocks. *Lee*'s teaching is in complete contrast with the present invention, in which both the number of bits for each pixel is **increased** and the number of operations performed is **increased**.

In the present invention, each pixel in an image has both content and metadata bits associated with it (page 14, lines 4-6: "[t]he invention is enabled by the allocation of an additional set 212 of bits, which may, for example, be 8 bits (bits 24-31) that are linked to the payload data and are used as "metadata" to identify the type of content provided for that pixel 125"). Furthermore, each pixel is "generally allocated payload data and metadata *independently* of the other pixels" (page 14, lines 6-7, emphasis added). Thus, the present invention necessarily **increases** the number of bits required per pixel in an image. This is in complete contradiction to *Lee* which reduces the number of bits.

The added bits or "metadata" of the present invention are used to classify the content of each individual pixel, and various operations can be performed on a per-pixel basis using the metadata of the individual pixels (see, e.g., Abstract). For example, pixels containing "data for an advertisement can be identified and metered to determine the total display space they occupy and length of time they are displayed" to a viewer (*Id.*). As another example, pixels forming content that is undesirable or objectionable, such nudity or violence, can be deleted from the final displayed image, or blurred out. Obviously, any of these are *additional* operations, and therefore **increase** the total number of operations performed by a system according to the present invention.

Independent Claims 1, 3, and 14 have been amended to clarify the nature of the invention. Specifically, using the example of amended Claim 1, the independent claims now recite that "for each of the plural pixels, said data comprises" both payload data, comprising content, and metadata, comprising a value selected from a predefined set of values. Furthermore, "because each of the processable pixels are individually classified according to a particular metadata value selected from the predefined set of values, said integrated circuit is able to perform operations on individual pixels based on their metadata".

It is respectfully submitted that Claims 1, 3, and 14, now amended to clarify the nature of the present invention, are patentable over the cited prior art at least because the cited prior art neither teaches nor suggests (a) having metadata included with the content data for each individual pixel, or (b) using such metadata to perform operations on individual pixels. Based at least on this, withdrawal of amended independent Claims 1, 3, and 14 is respectfully requested.

At least through their dependence on amended independent Claims 1, 3, and 14, which are believed to be patentable over the cited prior art, dependent Claims 2, 4-5, and 15 are also believed to be patentable over the cited prior art, and withdrawal of their rejection is respectfully requested.

Newly added Claims 16-24 contain no new matter: Claims 16-17 have support in the entirety of the originally filed application, including the claims and the drawings, see, e.g., page 14, line 22, to page 15, line 7; Claim 18 has support in the entirety of the originally filed application, including the claims and the drawings, see, e.g., FIG. 2, and page 13, line 20, to page 14, line 4; Claim 19 has support in the entirety of the originally filed application, including the claims and the drawings, see, e.g., Claim 1, FIGS. 5A-5B-5C-5D and their accompanying description, page 7, line 2, to page 9, line 13; Claim 20 has support in the entirety of the originally filed application, including the claims and the drawings, see, e.g., page 12, lines 19-21; Claim 21 has support in the entirety of the originally filed application, including the claims and the drawings, see, e.g., page 12, lines 15-21, page 13, lines 3-8, page 15, lines 8-9; Claim 22 has support in the entirety of the originally filed application, including the claims and the drawings, see, e.g., page 14, lines 13-17; Claim 23 has support in the entirety of the originally filed application, including the claims and the drawings, see, e.g., Claim 2, FIGS. 5A-5D and their accompanying description; and Claim 24, see, e.g., page 14, line 22, to page 15, line 7.

Newly added Claims 16, 17, and 18 depend from independent Claim 1, 3, and 14, respectively, which are believed to be patentable over the cited prior art, and are thus believed to be in condition for allowance.

Newly added independent Claim 19 recites a system for displaying visual objects comprised of pixels comprising a processing means which identifies pixels which comprise a visual object using the individual pixels' metadata fields, thereby allowing certain operations to be performed on the pixels forming an individual visual object separate from the pixels forming the remaining visual objects in the visual field. At least because the cited prior art neither teaches nor suggests such a system, newly added independent claim 19 is patentable over the cited prior art, and its allowance is respectfully requested.

Newly added Claims 20-24 depend from independent Claim 19, which is believed to be patentable over the cited prior art, and are thus believed to be in condition for allowance.

Based on the foregoing, allowance of all presently pending claims is respectfully requested.

Respectfully submitted,

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